CLAIMS

What is claimed is:

1. A method for providing network services in an enterprise network,
wherein said enterprise network includes a plurality of forwarding
domains, comprising:

obtaining at least one end to end network service parameter
from an application program;

communicating said at least one end to end network service
parameter to a plurality of network service modules, each of said
network service modules associated with a respective one of said
forwarding domains; and

establishing, by said network service modules, a communication
path within each of said forwarding domains, wherein said
communication path provides network performance reflecting said at
least one end to end network service parameter.

2. The method of claim 1, further comprising:

obtaining a network service request from said application
program, wherein said network service request includes said at least
one end to end network service parameter;

determining, by said network service modules, whether said
communication path within each of said forwarding domains can be
established to provide said network performance reflecting said at
least one end to end network service parameter; and

in the event of a determination by said network service modules
that said communication path within each of said forwarding domains
cannot be established to provide said network performance reflecting
said at least one end to end network service parameter, denying said
network service request from said application program.

3. The method of claim 1, further comprising establishing, by said network service modules, forwarding information enabling data packets to be forwarded between said communication paths within said forwarding domains.

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4. The method of claim 1, further comprising:

determining, by each of said network service modules, network service capabilities of networking devices within said respective associated one of said forwarding domains; and

10   wherein said establishing of said communication path within each of said forwarding domains is responsive to said capabilities of said networking devices.

5., The method of claim 2, further comprising:

15   determining, by each of said network service modules, network service capabilities of networking devices within said respective associated one of said forwarding domains; and

wherein said determining whether said communication path within each of said forwarding domains can be established to provide said

20 network performance reflecting said at least one end to end network service parameter is responsive to said capabilities of said networking devices.

6. The method of claim 1, further comprising:

25   receiving, by an application server program associated with said application program, a request for application service by an application client associated with said application program;

authenticating, by said application server program, said request for application service by said application client; and

30   in the even that said application server program authenticates said request for application service, obtaining a network service

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request from the application server portion of said application program, wherein said network service request includes said at least one end to end network service parameter.

5   7. The method of claim 3, further comprising:

maintaining, by each of said network service modules, an adjacency data structure describing adjacency relationships of said forwarding domains in said enterprise network; and

wherein said establishing of said forwarding information
10   enabling data packets to be forwarded between said communication paths within said forwarding domains is responsive to said adjacency relationships.

8. The method of claim 1, wherein said at least one end to end
15   network service parameter comprises an amount of guaranteed bandwidth.

9. The method of claim 1, wherein said at least one end to end network service parameter comprises a level of acceptable packet
20   loss.

10. The method of claim 1, wherein said at least one end to end network service parameter comprises an indication of network reliability.

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11. The method of claim 1, wherein said at least one end to end network service parameter comprises an indication of network delay.

12. The method of claim 1, further comprising, subsequent to said
30   establishing of said communication path within each of said forwarding domains, monitoring network performance of said

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communication path within each respective one of said forwarding domains by said associated network service module.

13. A system for providing network services in an enterprise network, wherein said enterprise network includes a plurality of forwarding domains, comprising:

a plurality of network service modules, each of said network service modules associated with a respective one of said forwarding domains, and wherein said network service modules are operative to:

obtain at least one end to end network service parameter from an application program; and

establish a communication path within each of said forwarding domains, wherein said communication path provides network performance reflecting said at least one end to end network service parameter.

14. The system of claim 13, further comprising:

a software module operative to obtain a network service request from said application program, wherein said network service request includes said at least one end to end network service parameter; and

wherein said network service modules are further operative to determine whether said communication path within each of said forwarding domains can be established to provide said network performance reflecting said at least one end to end network service parameter; and

wherein said software module operative to obtain said network service request is further operable, in the event of a determination by said network service modules that said communication path within each of said forwarding domains cannot be established to provide said network performance reflecting said at least one end to end

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network service parameter, deny said network service request from said application program.

15. The system of claim 13, wherein said network service modules are further operative to establish forwarding information in a plurality of networking devices enabling data packets to be forwarded between said communication paths within said forwarding domains.

16. The system of claim 13, wherein said network service modules are further operative to:

determine, by each of said network service modules, network service capabilities of networking devices within said respective associated one of said forwarding domains; and

wherein said establishment of said communication path within each of said forwarding domains is responsive to said capabilities of said networking devices.

17. The system of claim 14, wherein said network service modules are further operative to:

determine network service capabilities of networking devices within said respective associated one of said forwarding domains; and

wherein said determination of whether said communication path within each of said forwarding domains can be established to provide said network performance reflecting said at least one end to end network service parameter is responsive to said capabilities of said networking devices.

18. The system of claim 13, further comprising:

a program module, operative to obtain a network service request from an application server portion of said application program,

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wherein said network service request includes said at least one end to end network service parameter in the even that said application server program authenticates a request for application service from an application client.

19. The system of claim 14, wherein said network service modules are further operative to:

maintain an adjacency data structure describing adjacency relationships of said forwarding domains in said enterprise network; and

wherein said establishment of said forwarding information enabling data packets to be forwarded between said communication paths within said forwarding domains is responsive to said adjacency relationships.

20. The system of claim 13, wherein said at least one end to end network service parameter comprises an amount of guaranteed bandwidth.

21. The system of claim 13, wherein said at least one end to end network service parameter comprises a level of acceptable packet loss.

22. The system of claim 13, wherein said at least one end to end network service parameter comprises an indication of network reliability.

23. The system of claim 13, wherein said at least one end to end network service parameter comprises an indication of network delay.

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24. The system of claim 13, wherein said network service modules are further operative to, subsequent to said establishing of said communication path within each of said forwarding domains, monitor network performance of said communication path within each

5   respective one of said forwarding domains.

25. A system for providing network services in an enterprise network, wherein said enterprise network includes a plurality of forwarding domains, comprising:

10   means for obtaining at least one end to end network service parameter from an application program;

means for communicating said at least one end to end network service parameter to a plurality of network service modules, each of said network service modules associated with a respective one of

15   said forwarding domains; and

means for establishing, by said network service modules, a communication path within each of said forwarding domains, wherein said communication path provides network performance reflecting said at least one end to end network service parameter.